



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,681	02/06/2004	Pradeep Bahl	M1103.70234US00	7805
45840	7590	08/18/2011	EXAMINER	
WOLF GREENFIELD (Microsoft Corporation) C/O WOLF, GREENFIELD & SACKS, P.C. 600 ATLANTIC AVENUE BOSTON, MA 02210-2206			HUSSAIN, TAUQIR	
		ART UNIT	PAPER NUMBER	
		2452		
		NOTIFICATION DATE		DELIVERY MODE
		08/18/2011		ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents\_eOfficeAction@WolfGreenfield.com  
M1103\_eOfficeAction@WolfGreenfield.com  
PAIR@wolfgreenfield.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/773,681	BAHL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	TAUQIR HUSSAIN	2452	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 May 2011.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-10, 14, 16, 18-23, 25-39 and 45-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) 22, 23, 25-39, 46 and 47 is/are allowed.
- 6) Claim(s) 1-10, 14, 16, 18-21 and 45 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____ .                        |

## DETAILED ACTION

### ***Response to Amendment***

1. This office action is in response to amendment/reconsideration filed on 05/27/2011, the amendment/reconsideration has been considered. Claim 1 has been amended and claims 40-44 have been canceled. Claims 1-10, 14, 16, 18-23, 25-39 and 45-47 are pending for examination, the rejection cited as stated below.

### ***Response to Arguments***

2. Applicant's arguments have been fully considered but they are not persuasive. In remarks applicant argues in substance that:

(a) Applicant argues that "Melpignano and Mayer" does not disclose, "execution of a network DNA policy action of the network DNA policy, the execution of the network DNA policy action configuring network security settings of the computer".

Examiner respectfully disagrees as Melpignano clearly teaches in paragraph [0008], device communicate with the network in various communication standards i.e. network DNA policy action and makes a selection for connection with the network from available plurality of network interfaces i.e. security settings, since device is a multimode terminal, the said device being arranged in use to make a said selection automatically and according to a predetermined network interface selection policy implemented in said client device.

(b) Applicant argues that the combination of Melpignano and Mayer is improper.

Examiner respectfully disagree as, In response to applicant's argument that there is no teaching, suggestion, or motivation to combine the references, the examiner recognizes that obviousness may be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988), *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992), and *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398, 82 USPQ2d 1385 (2007). In this case, Melpignano considers the computer policy before connecting the available plurality of network policies. Mayer however considers the network configuration by analyzing the corporate network policy before allowing the devices to connect to network. In both instances, Melpignano and Mayer prime object is to make sure the device as well as the network connections does not compromised by implementing proper policies. Therefore, combining and modifying the teachings of Melpignano and Mayer will only refine the security configuration settings of the device as well as the network.

3. In light of remarks (see page 13), filed on 05/27/2011, the objection to the claims 1, 16 and 22 have been withdrawn.
  
4. In light of remarks (see pages 13-14), filed on 05/27/2011, the rejection to the claims 1-10, 14, 16, 18-21 and 45-46 under 35 U.S.C 101 is withdrawn.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. As to claims 1, 6-10 and 14 are rejected under 35 U.S.C 103(a) as being unpatentable over Melpignano et al (Pub No.: US 2006/0084417 A1), hereinafter “Melpignano”, in view of Mayer, (Pub. No.: US 2002/0178246 A1), hereinafter “Mayer”.

7. **As to claim 1,** Ayyagari discloses, acquiring at least one network attribute, , each network attribute corresponding to an attribute of a computer network (Melpignano, Abstract, scanning is acquiring the available network infrastructure corresponding the network attributes i.e. power consumption, signal strength mobility profiles, cellular, PAN etc.);

generating a value for at least one derived network DNA component according to at least one derived network DNA component specification, each derived network DNA component corresponding to an attribute of the computer network (Melpignano, paragraph [0008], client device communicate with network in accordance with one of a plurality of communications standards which is same as “value for at least one derived network DNA component” and makes a selection for connection to network from among a plurality of network interfaces, device in use makes a selection automatically and

Art Unit: 2452

according to a predetermined network interface selection policy implemented in client device.), and at least one of said at least one derived network DNA component specification referencing at least one of said at least one network attribute and processing by which the value of the derived network DNA component is generated from the referenced at least one network attribute (Melpignano, paragraph [0010], network interface selection policy may include a consideration of at least one of location or context awareness, preferably including a mobility parameter indicative of whether a said location or context is dynamic or static and/or an indication of how such information has been gathered); and

determining a network DNA for the computer network, the network DNA classifying the computer network (Melpignano, paragraph [0008], client device communicate with network in accordance with one of a plurality of communications standards), and the network DNA comprising at least one of said at least one derived network DNA component (Melpignano, paragraph [0009] network interface selection policy may be selected for implementation by user intervention or by said client device itself from among a predefined set of said selection policies stored which includes various network DNA components).

selecting a network DNA policy action to execute based on the at least one derived network DNA component meeting at least condition specified in the network DNA policy (Melpignano, paragraph [0035], network interfaces in a client device is selected according to user-defined policies whenever device has multiple choices based

Art Unit: 2452

on e.g. data transfer speed, power consumption, user mobility profiles, cached context information, security authorizations and connection costs);

initiating on the computer connected to the computer network an execution of a network DNA policy action of the network DNA policy, the execution of the network DNA policy action configuring network security settings of the computer that control communication over a connection to the computer network, (Melpignano, paragraph [0035], network interfaces in a client device may be selected automatically according to user-defined policies whenever a mobile terminal MT has multiple choices available. These policies may take several factors into account including data transfer speed, power consumption, user mobility profiles, cached context information, security authorizations and connection costs.), when the at least one derived network DNA component meeting at least condition specified in the network DNA policy (Melpignano, paragraph [0035], network interfaces in a client device is selected according to user-defined policies whenever device has multiple choices based on e.g. data transfer speed, power consumption, user mobility profiles, cached context information, security authorizations and connection costs).

Melpignano however is silent on disclosing explicitly, configuring network security setting based on a policy.

Mayer however discloses, configuring network security setting based on a policy (Mayer, Fig.2, [0015], where analysis platform collects configuration files from the relevant network devices and builds up an internal instance of a network configuration model based on the configuration files and the network topology which relates to

Art Unit: 2452

network DNA policy condition referencing network DNA component and further as disclosed in [0033], In step 245, the analysis platform determines whether a violation of the network policy has been detected); and

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to combine the teachings of Melpignano with the teachings of Mayer in order to provide a platform analyzer to simulate network configuration model according to the network policy and adds an entry to its final report each time that it detects a violation against the network policy in the network configuration model. The data in the entries pinpoints the cause of the deviation(s) from the network policy (Mayer, paragraph [0041]).

8. **As to claim 6**, the combined system of Melpignano and Mayer discloses the invention as in parent claim above, including, wherein at least one of said at least one derived network DNA component specification comprises an object oriented language statement (Melpignano, Fig.3, elements-200-214 are data structure, paragraph [0066], disclosed is a database which is written in OOP or object oriented language).

9. **As to claim 7**, the combined system of Melpignano and Mayer discloses the invention as in parent claim above, including, wherein at least one of said at least one derived network DNA component specification comprises a scripting language statement (Melpignano, paragraph [0038], UML is a scripting language.).

10. **As to claim 8**, the combined system of Melpignano and Mayer discloses the invention as in parent claim above, including, wherein acquiring at least one network

attribute comprises acquiring a plurality of network attributes in an order specified by an acquisition priority list, the plurality of networks attributes specified by the acquisition priority list comprising at least a subset of a domain name, one or more IP addresses, verified presence of network infrastructure elements, parameters received from a network server, a communications media type, a service provider, a nominal available communications bandwidth, a measured available communications bandwidth, logical network location and physical network location (Melpignano, paragraph [0039] and [0040], This "ScanInterfaces" 110 use case includes testing the physical availability of the network interface, checking its status and verifying that it can actually provide connectivity. When a wireless infrastructure is found and the policy allows it, the system 10 tries to connect to it to check if the link is usable and to keep its network connections ("Preconnect" 112). This may include, in the example case of a Bluetooth infrastructure, inquiring for access points AP.sub.2, connecting to them and performing service discovery and authorization procedures, as specified in the Personal Area Network (PAN) profile or in the LAN access profile and other parameters are discloses, in paragraph [0035], i.e. data transfer speed, power consumption, user mobility profiles, cached context information, security authorizations and connection costs etc.).

11. **As to claim 9,** the combined system of Melpignano and Mayer discloses the invention as in parent claim above, including, wherein the order specified by the acquisition priority list is in accord with an ordered set of network DNA policies that reference the plurality of network attributes (Melpignano, paragraph [0039], The user indicates his/her preferences in the "ConfigureSettings" 100 use case: this can be a GUI

Art Unit: 2452

(graphical user interface) tool where a set of NISPs can be defined and other settings specified as well. "SelectPolicy" 102 activates one specific NISP and it can be invoked either manually by the user or by a software agent, i.e. NicAgent 104, which is a software daemon that supervises the whole network selection system 10 in the mobile terminal MT. The NicAgent 104 may decide to change policy, if the user has allowed this behavior in the configuration settings of the device.).

12. **As to claim 10,** the combined system of Melpignano and Mayer discloses the invention as in parent claim above, including, wherein generating at least one derived network DNA component comprises generating each derived network DNA component referenced by a derived network DNA refresh list, the derived network DNA refresh list referencing at least one derived network DNA component dependent upon at least one acquired network attribute (Melpignano, [0036], The user may select one network interface selection policy (NISP) among a predefined set or define its own new NISP. Once a policy is selected, the mobile device will use the preferred network interface (provided it is available) and will periodically scan for other usable network infrastructures.).

13. **As to claim 14,** the combined system of Melpignano and Mayer discloses the invention as in parent claim above, including, wherein the network DNA policy reduces a probability of security vulnerability when switching between computer networks (Melpignano, [0036], The user may select one network interface selection policy (NISP) among a predefined set or define its own new NISP. Once a policy is selected, the

mobile device will use the preferred network interface (provided it is available) and will periodically scan for other usable network infrastructures.).

14. Claim 2 is rejected under 35 U.S.C 103(a) as being unpatentable over Melpignano and Mayer as applied to parent claim above in view of Ayyagari et al. (Pub. No.: US 2002/0176366 A1), hereinafter "Ayyagari".

15. **As to claim 2,** the combined system of Melpignano and Mayer discloses the invention as parent claim 1 above, including, wherein said at least one derived network DNA component comprises a network species component indicating a network species classification selected from among a plurality of network species classifications includes a home network ((Melpignano, paragraph [0052], the Context class 214 keeps information about the environment surrounding the user, including a location name (e.g. "office" or "home") and a list of reachable access points AP.sub.1-3. A mobility index parameter is included to indicate whether the location and/or context are a dynamic one or a static one and paragraph [0035], policies may take several factors into account including data transfer speed, power consumption, user mobility profiles, cached context information, security authorizations and connection costs.).

Melpignano and Mayer however are silent on disclosing explicitly, the plurality of network species classifications comprising an enterprise network, and a public place network.

Ayyagari however discloses a similar concept as, plurality of network species classification includes an enterprise network and public place network (Ayyagari,

paragraph [0008], user has an option to select an infrastructure mode between various network i.e. enterprise / corporate network or public place network i.e. airport, hotel etc.).

Therefore, it would have been obvious to one of the ordinary skilled in the art at the time the invention was made to combine the teachings of Melpignano and Mayer with the teachings of Ayyagari in order to provide a system that periodically scan across all wireless channels to determine currently available infrastructure networks and machines currently using the ad hoc mode. Based on the scan the system may attempt to associate with a particular infrastructure network based on either an a priori criteria or based on programmatically generated criteria (Ayyagari, paragraph [0011]).

16. Claims 3-4 are rejected under 35 U.S.C 103(a) as being unpatentable over Melpignano and Mayer as applied to claims above in view of Anderson et al. (Pub. No.: US 2004/0068582 A1), hereinafter "Anderson".

17. **As to claim 3,** the combined system of Melpignano and Mayer discloses the invention as applied to parent claim above, including, wherein at least one of said at least one derived network DNA component specification comprises at least one value of at least one of said at least one network attribute (Melpignano, paragraph [0052], A mobility index parameter is included to indicate whether the location and/or context is a dynamic one or a static one).

Melpignano and Mayer however are silent on, "a linear transformation".

Anderson however discloses," a linear transformation" (Anderson, [0186], where network confidence level is Network DNA component is calculated based on linear combination of each of constituent confidence factor field).

Therefore it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Melpignano and Mayer with the teachings of Anderson in order to provide a hierarchy of network DNA with respect to network DNA confidence level which will help developing network architectural models in future.

18. **As to claim 4,** the combined system of Melpignano, Ayyagari and Anderson discloses the invention as applied to parent claim above, including, wherein said at least one derived network DNA component specification comprises a combination of said at least one network attribute (Melpignano, paragraph [0034], form of an access point AP will depend on the access technology under consideration. IEEE 802.11b has its own access points AP.sub.1 as does Bluetooth AP.sub.2, whereas the access points AP.sub.3 for GPRS may be referred to in the art as base stations BS. The Bluetooth access points AP.sub.2 may connect through a dedicated router 14, while a further router 16 may be provided for WLAN access via the IEEE 802.1 b access points AP.sub.1.).

19. As to claim 5 is rejected under 35 U.S.C 103(a) as being unpatentable over Melpignano and Mayer as applied to parent claim above, in view of Beadles et al (Patent No.: US 7159125 B2), hereinafter "Beadles".

20. **As to claim 5**, the combined system of Melpignano and Mayer disclose the invention substantially as in parent claim 1 above. Ayyagari and Mayer however is silent on disclosing, "wherein at least one of said at least one derived network DNA component specification comprises a structured query language statement".

Beadles however, discloses, "wherein at least one of said at least one derived network DNA component specification comprises a structured query language statement" (Beadles, Col.7, lines 5-6, where Network policy store/Network DNA is implemented as SQL server database, further these policy's can be written in any other well known languages in the art e.g. pearl, Visual basic etc.).

Therefore, it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Melpignano and Mayer with the teachings of Beadles in order to provide device management policy to have control over network via developing a policy to associated network devices.

21. Claim 45 is rejected under 35 U.S.C 103 (a) as being unpatentable over Melpignano and Mayer as applied to parent claim above, in views of Williams et al. (Pub. No.: US 2005/0257267 A1), hereinafter "Williams".

22. **As to claim 45**, the combined system of Melpignano, Mayer discloses the invention as in parent claim above.

Melpignano and Mayer however are silent on disclosing explicitly, the value of each derived network DNA component has a confidence level associated therewith; and the network DNA policy condition is satisfied when the referenced derived network DNA component has a value specified in the network DNA policy and the confidence level for the value of the referenced derived network components is above a threshold.

Williams however discloses a similar concept as, the value of each derived network DNA component is associated with a confidence level (Williams, Fig.3, recommendation engine, [0078], where recommendation engine is provide a confidence level and each policy is associated with confidence level); and sufficient network DNA has been acquired for the network DNA policy if the confidence level of each network DNA component referenced by the network DNA policy condition of the network DNA policy is greater than zero (Williams, [0144], where mapping score is above a given threshold and where threshold can be a zero).

Therefore, it would have been obvious to one of the ordinary skilled in the art at the time the invention was made to combine the teachings of Melpignano and Mayer with the teachings of Williams in order to provide a one or more audit servers strategically deployed around the network employ heterogeneous data-gathering tools to gather information about the network in response to the configured audits, and transmit the gathered information to the compliance server. An audit repository stores the gathered information for use by the compliance server for security and regulatory

policy assessment, network vulnerability analysis, report generation, and security improvement recommendations.

***Allowable Subject Matter***

23. Claims 16, 18-23, 25-39 and 47 are allowed.

***Reasons for Allowance***

24. This communication warrants no examiner's reason for allowance, as applicant's reply makes evident the reason for allowance, satisfying the record as whole as required by rule 37 CFR 1.104 (e). In this case, the substance of applicant's remarks in the Amendment filed on February 17, 2009 with respect to the amended claim limitations point out the reason claims are patentable over the prior art of record. Thus, the reason for allowance is in all probability evident from the record and no statement for examiner's reason for allowance is necessary (see MPEP 13202.14).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAUQIR HUSSAIN whose telephone number is (571)270-1247. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thu V. Nguyen can be reached on (571) 272-6967. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. H./  
Examiner, Art Unit 2452

/THU NGUYEN/  
Supervisory Patent Examiner, Art Unit 2452